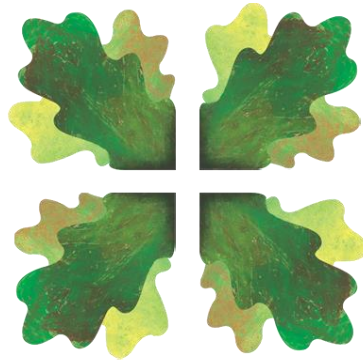


BS5837:2012 Arboricultural Impact Assessment



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Hillcrest, St Giles On The Heath, Launceston, Devon, PL15 9SQ

4th February 2021

Ref: 2114/AIA



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Revision Schedule

Rev	Date	Details
A	04/02/21	Based on Proposed Site Plan 1915-2

SUMMARY

- A planning application is proposed for the demolition of an existing dwelling and replacement with a new dwelling at Hillcrest, St. Giles On The Heath, near Launceston.
- This report presents an BS5837:2012 (Trees in relation to design, demolition and construction – Recommendations) Arboricultural Impact Assessment (AIA) and Tree Protection Plan (TPP) for submission with the planning application.
- There are seven individual trees and three tree groups identified by the initial tree survey. BS5837 categorises the trees as follows:
 - There are no ‘A’ category trees and tree groups.
 - Five individual trees and two tree groups are ‘B’ category.
 - Two individual trees and one tree group of Leyland cypress are ‘C’ category.
- It is not necessary to remove any trees to facilitate the development. The new dwelling footprint appears to be outside the root protection areas (RPAs) of trees which grow from the boundaries. However, infrastructure such as soakaways and filter trenches may fractionally impinge into RPAs. Adverse impacts to trees are not expected as a result.
- There are no overriding shade impacts for the new dwelling from trees.
- Three bat boxes are recommended to be installed on stems comprising the tree group G4 on the south boundary.
- Tree protection barriers are recommended during the construction phase, to protect the rooting areas of trees, as shown by the accompanying tree protection plan 2114/TPP.

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1.0 INTRODUCTION

1.1 Instruction

- 1.1.1 I have been instructed by Mr. J. Rai as the Client, to assist with a planning application for the demolition of an existing dwelling and replacement with a new dwelling at Hillcrest, St. Giles On The Heath, near Launceston (Cornwall), in North Devon. To meet this end, I have undertaken the following:
- 1.1.2 A tree survey and quality assessment of trees on the proposed development site to form a Tree Constraints Plan (TCP).
- 1.1.3 From the TCP and proposed site layout, I have made an Arboricultural Impact Assessment (AIA) to evaluate the direct and indirect effects to trees by the development proposals.
- 1.1.4 Made recommendations to protect trees during the construction process, which are shown on the accompanying Tree Protection Plan (TPP); 2114/TPP.

1.2 Methodology

- 1.2.1 Any trees relevant to the proposed development have been surveyed in accordance with BS5837:2012 (Trees in relation to design, demolition and construction – Recommendations).
- 1.2.2 Where trees grow adjacent to the site their condition has been assessed from the development site. Dimensions such as height, stem diameter and canopy extent have been estimated for all trees.
- 1.2.3 The survey, AIA report and plan are based on the Proposed Site Plan '1915-2' produced by R. J. Murren and supplied to me by R. A. Rowe & Co, as a paper copy only.
- 1.2.4 Rooting areas have been allocated to the surveyed trees as indicated by BS5837; these are listed with the tree survey data on page 10.

1.3 Limitations

- 1.3.1 Trees are dynamic organisms which change rapidly in condition over time, due to severe weather conditions, the effects of diseases and pests, and other environmental factors. Therefore, this report and any recommendations arising

from it are most valid for the 12-month period following the site survey, commencing February 2021.

1.3.2 The tree survey and this report is for planning purposes only and does not constitute a tree risk assessment.

2.0 BASELINE CONDITIONS

2.1 Site location

2.1.1 The site is located adjacent to the A388 approximately 3 miles North of the settlement of St Giles on the Heath, approximately 6km North East from Launceston town centre.

2.2 General description

2.2.1 The existing site has a vacant single storey dwelling which is in poor condition. The boundaries are defined by well-established Devon hedge banks with mature trees on all sides; the East boundary adjoining the A388 highway with access in the North East corner of the plot.

2.3 Trees on site

2.3.1 There are seven individual trees and three tree groups on site. All trees grow from the site boundaries consisting of oak, beech and sycamore as the dominant species, also sweet chestnut and Scot's pine, with a hazel understory.

2.4 Legal status

2.4.1 At the time of writing it is not known if the trees on site are protected by tree preservation orders (TPO).

3.0 CATEGORISATION OF SURVEYED TREES

3.1 BS5837:2012 requires that a tree survey should stream development site tree populations to identify four categories of trees:

- A Category - Trees of **high quality** with an estimated remaining life expectancy of at least 40 years.

- B Category - Trees of **moderate quality** with an estimated remaining life expectancy of at least 20 years.
- C Category - Trees of **low quality** with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm.
- U Category - Trees in such a condition that they cannot realistically be retained as living trees, in the context of the current land use, for longer than 10 years.

Details of the trees are given in the survey data table on page 10 including their grading according to BS5837. Table 1 of BS5837 describing the categorisation system is copied on page 11.

3.2 BS5837 categorisation (See the tree survey table on page 10)

- There are no 'A' category trees and tree groups.
- Seven individual trees and two tree groups are 'B' category.
- Two individual trees and one tree group of Leyland cypress are 'C' category.

4.0 PROPOSED LAYOUT

4.1 The development proposal is to replace the existing dwelling with a two-storey dwelling that includes an integrated garage and conservatory, using the existing access.

4.2 As I have only a paper copy of the proposed layout, it is not possible to overlay the layout digitally with the tree constraints data to accurately assess impacts to trees.

Therefore, I have extrapolated the TPP with the proposed layout to assess the impacts on a preliminary basis, as described by the next section.

5.0 IMPACTS OF PROPOSED LAYOUT ON TREES

5.1 Tree removals:

5.1.1 It is not necessary to remove any trees to facilitate the development.

5.2 Root Protection Areas (RPAs)

- 5.2.1 BS5837:2012 also recommends Root Protection Areas (RPAs) as derived by tree stem diameter. RPAs for individual trees are calculated in the survey data table in this report, as an area and as a notional radius of that RPA, based on a circular protection zone.
- 5.2.2 Generally, the purpose of circular RPAs for this report is to illustrate areas of concern where potentially damaging activities should be avoided; these are level changes; particularly excavation, the transit of vehicles including plant, and the storage of materials over non surfaced ground.
- 5.2.3 The new dwelling footprint appears to be outside the RPAs of trees which grow from the boundaries. However, infrastructure such as soakaways and filter trenches appear to fractionally ingress into RPAs of trees on the East and South boundaries. I do not anticipate adverse impacts to trees as a result.
- 5.2.4 To conclude I am satisfied that the new dwelling is positioned sufficiently clear of trees to enable their long-term retention.

6.0 IMPACTS OF TREES ON PROPOSED LAYOUT

6.1 Shade

- 6.1.1 The TPP has indicative shade arcs plotted for those trees to the west and south of the replacement dwelling, to give a rough idea of potential shade impacts.
- 6.1.2 The TPP shows the most significant shade impacts are from tree group G4 and trees O7 and G8, which already exist given the presence of a dwelling on-site already. Shade impacts are not adverse.

6.2 Proximity

- 6.2.1 Overall, the layout has been arranged to achieve a satisfactory spatial relationship with trees.

7.0 RECOMMENDATIONS

7.1 Tree Protection Plan: I have recommended tree protection fencing (TPF) during the construction phase, to act as barriers preventing damage to the trees to remain and their rooting areas. These are to be erected prior to demolition and construction commencing, consisting of heras panels attached to a rigid scaffold framework, as shown by drawing 2114/TPP.

7.2 The area enclosed by the fencing is to be designated as a construction exclusion zone (CEZ), within which the following are prohibited:

- Changes in levels.
- Any excavations.
- Storage of materials.
- Transit and parking of vehicles (including plant).

7.3 Additional precautions

The following additional precautions are also recommended to be adhered to minimise the potential for damage to trees:

- a. Ensure wide or tall loads or plant with booms, jibs and counterweights can operate without coming into contact with the tree canopies. Any transit or traverse of plant in close proximity to trees should be conducted under the supervision of a banksman to ensure that adequate clearance from trees is maintained at all times.
- b. Material which will contaminate the soil, e.g. concrete mixings, diesel oil and vehicle washings, should not be discharged within 10m of a tree stem.
- c. It is essential that allowance be made for the slope of the ground so that damaging materials such as concrete washings, mortar or diesel oil cannot run towards trees.
- d. Fires should not be lit in a position where their flames can extend to within 5m of foliage, branches or trunk. This will depend on the size of the fire and the wind direction.
- e. Notice boards, telephone cables or other services should not be attached to any part of the trees.

7.4 Bat boxes

7.4.1 To comply with Condition 6 of planning consent 1/0049/2020/FUL I recommend the installation of three Schwegler IFF bat boxes in tree group G4.

8.0 CONCLUSIONS

- 8.1 A planning application is proposed for the demolition of an existing dwelling and replacement with a new dwelling at Hillcrest, St. Giles On The Heath, near Launceston.
- 8.2 This report presents an BS5837:2012 Arboricultural Impact Assessment (AIA) and Tree Protection Plan (TPP) for submission with the planning application.
- 8.3 There are seven individual trees and three tree groups identified by the initial tree survey. BS5837 categorises the trees as follows:
- There are no 'A' category trees and tree groups.
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- 8.4 It is not necessary to remove any trees to facilitate the development. The new dwelling footprint appears to be outside the root protection areas (RPAs) of trees which grow from the boundaries. However, infrastructure such as soakaways and filter trenches may fractionally impinge into RPAs. Adverse impacts to trees are not expected as a result.
- 8.5 There are no overriding shade impacts for the new dwelling from trees.
- 8.6 Three bat boxes are recommended to be installed on stems comprising the tree group G4 on the south boundary.
- 8.7 Tree protection barriers are recommended during the construction phase, to protect the rooting areas of trees, as shown by the accompanying tree protection plan 2114/TPP.

Doug Pratt

BSc (Hons.) For., F. Arbor A.

04/02/21

TREE SURVEY NOTES:

Tree No.	Number on plan and in survey data table
Species	*Indicates trees or tree groups not shown by topographical survey Tree species with <i>botanical</i> name when first listed
Height (Ht.).	Estimated height, including boundary feature such as a bank, if the tree grows on top
Dia. or \emptyset	Stem diameter estimated in millimetres at 1.5m above ground level MS indicates multiple stems, where there are multiple small diameter stems of less than 100mm E indicates a rough estimate B is a basal estimate
Crown extents	Estimated on the four compass points, or extent over site from tree groups.
Height of crown clearance (HCC)	The height to the lowest branch attachments and first significant branch and direction of growth.
Age Class	Young (Y) Sapling Semi Mature (SM) First $\frac{1}{4}$ natural life span Early Mature (EM) Second $\frac{1}{4}$ natural life span Mature (M) Third $\frac{1}{4}$ natural life span Late Mature (LM) Final $\frac{1}{4}$ natural life span, start of declining/retrenching crown Veteran (V) From LM into senescence, and/or experienced numerous storm damage/failure events with associated wounds and decay.
Condition & recommended works	Physiological as vitality; good, fair, poor or dead. Structural with recommended works.
Action and/or comments	Recommendations for tree work where observed as necessary, including further investigations of suspected defects which may require more detailed assessment. If blank no works are recommended.
ERC.	Estimated remaining contribution in years: Less than 10 years; 10-20 years; 20 - 40 years; more than 40 years. BS5837 infers 'contribution' in an urban context
Cat.	BS5837 Category: A Red; B Blue; C Grey; U Red.
Root Protection Area (RPA)	The root protection in m ² , as area and/or radial distance as measured from the centre of the tree stem. For linear features a buffer may be recommended, to be measured from tree stems facing the site. RPAs are capped at 707m ² or 15m radial distance.

TREE SURVEY DATA

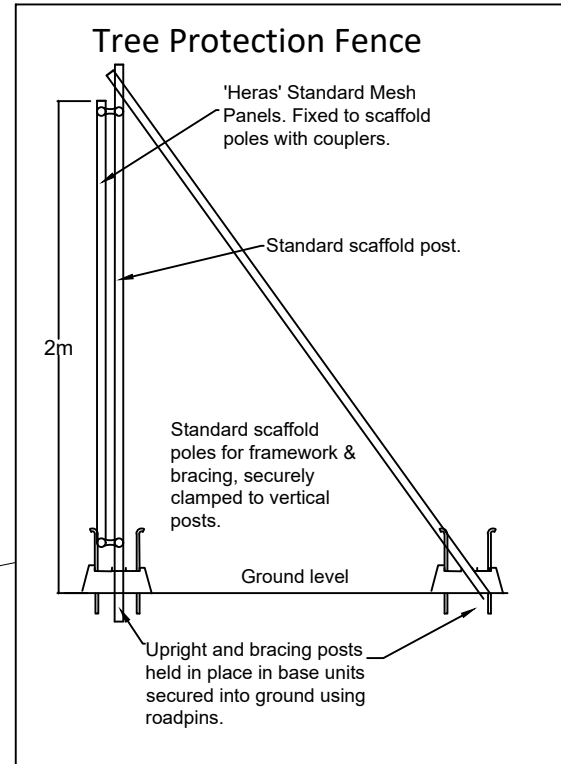
Tree Ref. No.	Species	Ht. (m)	Dia. (mm)	Crown spread (m)				HCC (m)	Age Class	Condition	Action and/or comments	ERC	Cat.	RPA (m ²)	Radial RPA (m)
				N	E	S	W								
01	Common oak <i>Quercus robur</i>	9	250	1	1	3	3	3	EM	Good vitality and fair structural condition		40	B1	28	3.0
G2	Hazel <i>Corylus avellana</i>	8	MS	-	-	-	5	0	EM	Good vitality and good structural condition	Some oak saplings	20+	C2	2.5m buffer	
03	Beech <i>Fagus sylvatica</i>	12	450 230x3	8	6	7	7	0.5	M	Good vitality and fair structural condition		40	B1	258	9.1
G4	Beech Sycamore <i>Acer pseudoplatanus</i>	12	150 Ave.	8	-	-	-	0	EM	Good vitality and fair structural condition		40	B2	4.5m buffer	
05	Scot's pine <i>Pinus sylvestris</i>	10	480	1	4	7	1.5	2	M	Good vitality and fair structural condition: • Stem wound		20+	B1	104	5.7
06	Beech	10	310	2	7	4	5	0.5	M	Good vitality and fair structural condition		40	B1	43	3.7
07	Beech	12	500x2	5	10	5	10	1.3	M	Good vitality and fair structural condition		40	B1	226	8.5
G8	Beech Sweet chestnut <i>Castanea sativa</i>	12	280 – 500	5	7	5	6	1.5	M	Good vitality and fair structural condition		40	B2	204	8.1
09	Beech	14	650	5	10	5	5	1.5	M	Good vitality and fair structural condition		40	B1	191	7.8
10	Common oak	10	300 290	5	6	8	7	0	M	Fair vitality and fair structural condition		40	C1	79	5.0

Table 1 – Cascade chart for tree quality assessment (extract from BS5837:2012 Trees in relation to design, demolition and construction – Recommendations)

Category and definition	Criteria (including subcategories where appropriate)			Identification on plan
Trees unsuitable for retention (see Note)				
<p>Category U</p> <p>Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years</p>	<ul style="list-style-type: none"> • Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other U category trees (i.e. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning) • Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline. • Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality <p><i>NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see 4.5.7.</i></p>			DARK RED
1 Mainly Arboricultural values		2 Mainly landscape values	3 Mainly cultural values, including conservation	
Trees to be considered for retention				
<p>Category A</p> <p>Those of high quality and value: such a condition as to be able to make a substantial contribution (a minimum of 40 years is suggested)</p>	<p>Trees that are particularly good examples of their species, especially if rare or unusual, or essential components of groups, or of formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)</p>	<p>Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features</p>	<p>Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)</p>	LIGHT GREEN
<p>Category B</p> <p>Those of moderate quality and value: those in such a condition as to make a significant contribution (a minimum of 20 years is suggested)</p>	<p>Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation</p>	<p>Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality</p>	<p>Trees with material conservation or other cultural value</p>	MID BLUE
<p>Category C</p> <p>Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm</p>	<p>Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories</p>	<p>Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits</p>	<p>Trees with no material conservation or other cultural value</p>	GREY

Tree Protection Plan

Not based on topographical survey, therefore all tree positions are indicative only



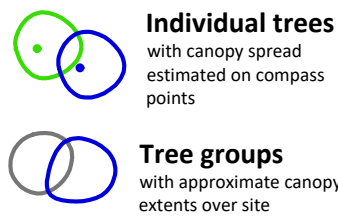
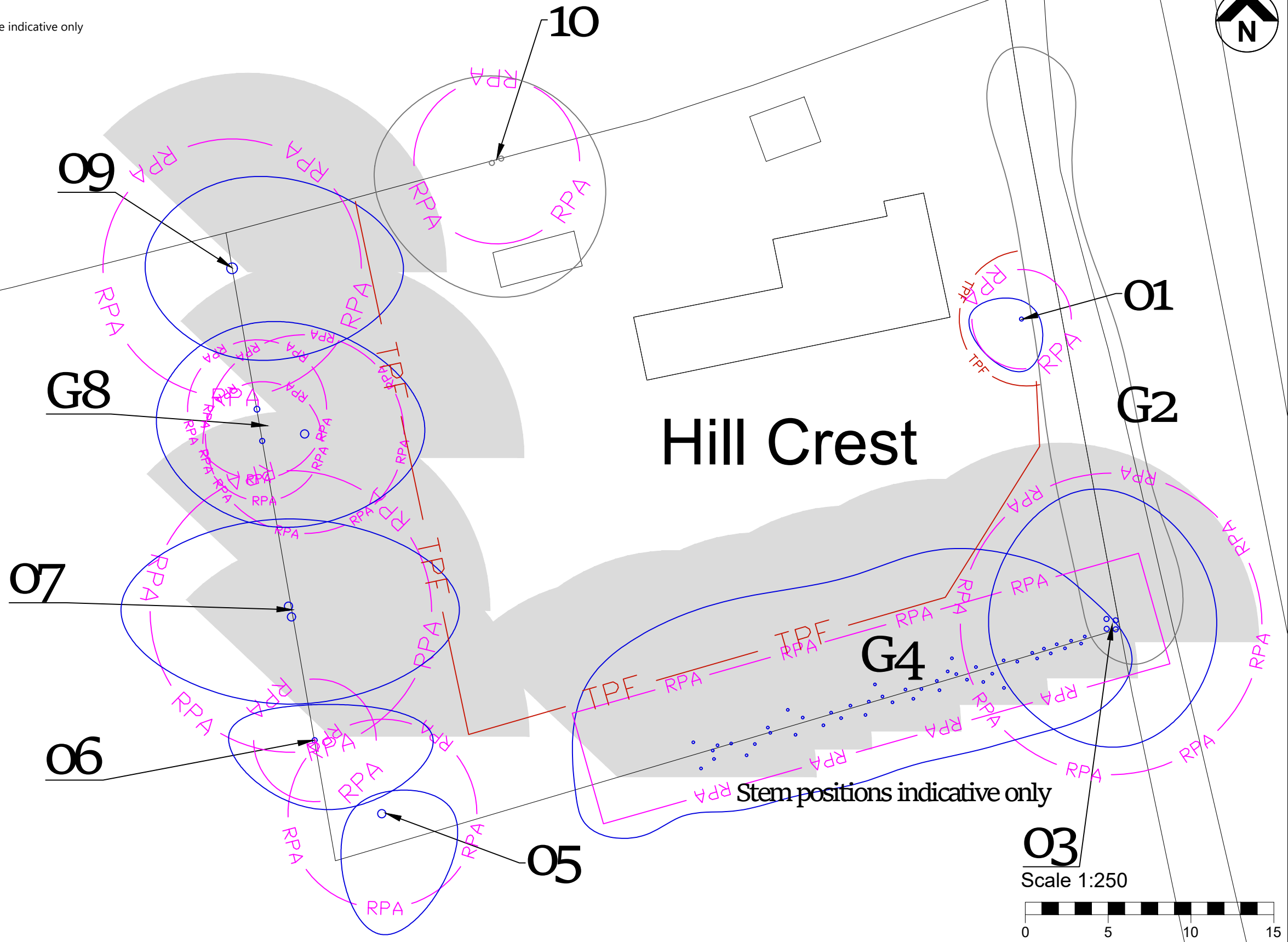
Tree Protection Measures

Prior to construction commencing, tree protection fencing (TPF) is to be erected around the trees to be retained, according to the specification as shown above. Existing fencing/hedges may be utilised where fit for purpose. The area enclosed by the fencing is to be designated as a construction exclusion zone (CEZ), within which the following are prohibited:

- excavations
- changes in levels
- storage of materials
- transit of machinery
- any other activity causing ground damage

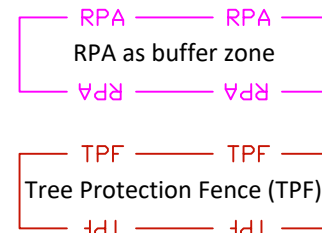
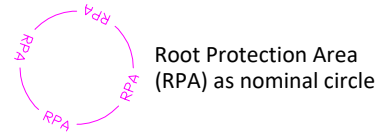
In addition:

- Ensure wide or tall loads or plant with booms, jibs and counterweights can operate without coming into contact with the tree canopies. Any transit or traverse of plant in close proximity to trees should be conducted under the supervision of a banksman to ensure that adequate clearance from trees is maintained at all times.
- Material which will contaminate the soil, e.g. concrete mixings, diesel oil and vehicle washings, should not be discharged within 10m of a tree stem.
- It is essential that allowance be made for the slope of the ground so that damaging materials such as concrete washings, mortar or diesel oil cannot run towards trees.
- Fires should not be lit in a position where their flames can extend to within 5m of foliage, branches or trunk. This will depend on the size of the fire and the wind direction.
- Notice boards, telephone cables or other services should not be attached to any part of the trees.



Colour coding (BS5837:2012) - see report for definitions

- 'A' Category
- 'B' Category
- 'C' Category
- 'U' Category



Shade arc (indicative)



Site: Hillcrest, St Giles On The Heath, Devon

Title: Tree Protection Plan

Date: 04/02/21

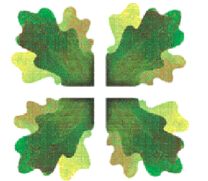
Scale: 1/250 at A3

Drawing No.: 2114/TPP

Rev.

A

Drawing Status: PLANNING



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